

In the Claims

Please amend the claims presented during the international phase as follows.

Applicant presents a full set of claims showing markups of the claims with insertions and deletions indicated by underlining and strikethrough text, respectively.

1. (Currently amended) An isolated nucleic acid molecule selected from the group consisting of:

(a) complements of nucleic acid molecules which hybridize under high stringency conditions to a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of nucleotide sequences set forth as SEQ ID NOs: 1-14 and 97-108 ~~97-107~~ and which code for a sarcoma-associated antigen,

(b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and

(c) complements of (a) or (b).

2. (Currently amended) The isolated nucleic acid molecule of claim 1, wherein the isolated nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of nucleotide sequences set forth as SEQ ID NOs: 1-14 and 97-108 ~~97-107~~.

3.-4. (Canceled)

5. (Currently amended) An isolated nucleic acid molecule comprising a nucleotide sequence that is at least about 90% identical to a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1-14 and 97-108 ~~97-107~~.

6.-9. (Canceled)

10. (Currently amended) An expression vector comprising the isolated nucleic acid molecule of claim 5 ~~any of claims 1-9~~ operably linked to a promoter.

11. (Original) An isolated host cell transformed or transfected with the expression vector of claim 10.

12.-13.(Canceled)

14. (Currently amended) An isolated polypeptide encoded by the isolated nucleic acid molecule of claim 5 ~~any of claims 1-9~~.

15. (Original) The isolated polypeptide of claim 14, wherein the isolated polypeptide has an amino acid sequence selected from the group consisting of amino acid sequences set forth in SEQ ID NOs: 46-60 and 109-120 or a fragment thereof that is at least eight amino acids in length.

16. (Currently amended) An isolated binding polypeptide that selectively binds to the isolated polypeptide of claim 14 ~~or 15~~.

17. (Original) The isolated binding polypeptide of claim 16, wherein the binding polypeptide is an antibody or an antigen-binding fragment thereof.

18. (Currently amended) A method of diagnosing cancer in a subject comprising:
(a) obtaining a biological sample from the subject, and
(b) determining the presence of an antibody in the biological sample that binds specifically to one or more sarcoma-associated antigens encoded by a nucleotide sequence as claimed in claim 5 ~~selected from the group consisting of SEQ ID NO: 3, 5-8, 10-45, 99, 102, 104 and 108~~ as an indicator that the subject has cancer.

19.-27.(Canceled)

27. (Currently amended) A method for diagnosing cancer in a subject comprising:
obtaining a biological sample from a subject, and
determining the expression of a sarcoma-associated antigen or a nucleic acid molecule that encodes it, wherein the nucleic acid molecule comprises a nucleotide sequence as claimed in claim 5 ~~selected from the group consisting of nucleotide sequences set forth as SEQ ID NO: 3, 5-8, 10-45, 99, 102, 104 and 108~~ in the biological sample,
wherein the expression of the sarcoma-associated antigen or the nucleic acid molecule that encodes it in the sample is diagnostic for cancer in the subject.

28.-46. (Canceled)

47. (Currently amended) A method for determining onset, progression, or regression, of cancer in a subject comprising:

obtaining from a subject a first biological sample,

determining the expression of a sarcoma-associated antigen or the nucleic acid molecule that encodes it in the first sample, wherein the nucleic acid molecule comprises a nucleotide sequence as claimed in claim 5 ~~selected from the group consisting of (1) nucleotide sequences set forth as SEQ ID NOs: 3, 5-8, 10-45, 99, 102, 104 and 108 and (2) nucleotide sequences that are at least 90% identical to the nucleotide sequences of (1),~~

obtaining from the subject a second biological sample,

determining the expression of the sarcoma-associated antigen or the nucleic acid molecule that encodes it in the second sample, and

comparing the expression in the first sample to the expression in the second sample as a determination of the onset, progression, or regression of the cancer.

48.-63. (Canceled)

64. (Currently amended) A kit for detecting antibodies reactive to a sarcoma-associated antigen in a biological sample, comprising:

one or more sarcoma-associated antigens encoded by a nucleic acid molecule comprising a nucleotide sequence as claimed in claim 5 ~~selected from the group consisting of nucleotide sequences set forth as SEQ ID NOs: 3, 5-8, 10-45, 99, 102, 104 and 108, and~~

instructions for the use of the sarcoma-associated antigens in the detection of antibodies in the biological sample.

65.-68. (Canceled)

69. (Currently amended) A kit for the diagnosis of cancer in a subject, comprising:

one or more binding agents that specifically bind to a sarcoma-associated antigen or the nucleic acid molecule that encodes it, wherein the nucleic acid molecule comprises a nucleotide sequence as claimed in claim 5 ~~selected from the group consisting of nucleotide sequences set forth as SEQ ID NO: 3, 5-8, 10-45, 99, 102, 104 and 108 and~~ instructions for the use of the binding agents in the diagnosis of cancer.

70.-75.(Canceled)

76. (Currently amended) A method for treating a subject with a disorder characterized by the aberrant expression of a sarcoma-associated antigen or the nucleic acid molecule that encodes it comprising:

administering to a subject an effective amount of an antibody or antigen-binding fragment thereof that specifically binds to the sarcoma-associated antigen which comprises the polypeptide sequence as claimed in claim 14 ~~selected from the group consisting of polypeptide sequences set forth as SEQ ID NOs: 48, 50-53, 55-90, 111, 114, 116 and 120~~ or a fragment thereof that is eight or more amino acids in length.

77.-90.(Canceled)

91. (Currently amended) A method for treating a subject with a disorder characterized by the aberrant expression of a sarcoma-associated antigen or a nucleic acid molecule that encodes it, comprising:

administering an amount of an agent that selectively binds to the sarcoma-associated antigen or the nucleic acid molecule that encodes it effective to treat the disorder,

wherein the nucleic acid molecule is as claimed in claim 5 ~~comprises a nucleotide sequence selected from the group consisting of:~~

~~(a) an isolated nucleic acid molecule comprising a nucleotide sequence that is at least 90% identical to the nucleotide sequence selected from the group consisting of SEQ ID NOs: 3, 5-8, 10-45, 99, 102, 104 and 108, and~~

~~(b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code.~~

92.-105. (Canceled)

106. (Currently amended) A method for treating a subject with a disorder characterized by the aberrant expression of a sarcoma-associated antigen or the nucleic acid molecule that encodes it, comprising:

administering to the subject an agent which stimulates an immune response to a sarcoma-associated antigen encoded by a nucleic acid molecule as claimed in claim 5 ~~selected from the group consisting of:~~

~~an isolated nucleic acid molecule comprising a nucleotide sequence that is at least 90% identical to the nucleotide sequence selected from the group consisting of SEQ ID NOs: 3, 5-8, 10-45, 99, 102, 104 and 108.~~

107.-119. (Canceled)

120. (Currently amended) A kit for diagnosing a disorder associated with the aberrant expression of a sarcoma-associated antigen or a nucleic acid molecule that encodes it, comprising:

one or more nucleic acid molecules that hybridize to the nucleic acid molecule as claimed in claim 5 ~~that encodes the sarcoma-associated antigen comprising a nucleotide sequence selected from the group consisting of nucleotide sequences set forth as SEQ ID NOs: 3, 5-8, 10-45, 99, 102, 104 and 108~~ under high stringency conditions, and

instructions for the use of the nucleic acid molecules in the diagnosis of a disorder associated with aberrant expression of the sarcoma-associated antigen or the nucleic acid molecule that encodes it.

121.-129. (Canceled)

130. (Currently amended) A composition, comprising:

an agent which stimulates an immune response to a sarcoma-associated antigen encoded by a nucleic acid molecule as claimed in claim 5 ~~selected from the group consisting of:~~

~~(a) an isolated nucleic acid molecule comprising a nucleotide sequence that is at least 90% identical to the nucleotide sequence selected from the group consisting of SEQ ID NOs: 3, 5-8, 10-45, 99, 102, 104 and 108, and~~

~~(b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code.~~

131.-142. (Canceled)

143. (Currently amended) A composition, comprising:

an agent which selectively binds to a sarcoma-associated antigen or a nucleic acid molecule that encodes it, wherein the nucleic acid molecule is as claimed in claim 5
~~comprises a nucleotide sequence selected from the group consisting of:~~

~~(a) an isolated nucleic acid molecule comprising a nucleotide sequence that is at least 90% identical to the nucleotide sequence selected from the group consisting of SEQ ID NOs: 3, 5-8, 10-13, 99, 102 and 104, and~~

~~(b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code.~~

144.-179. (Canceled)